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ABSTRACT

This digest describes efforts to improve academic learning for middle level high school students to be applied practically to develop workplace competence and flexibility by integrating academic and vocational education. Following an introduction describing the need to prepare students for working life is a paragraph describing generally the integrated strategy that is the subject of this digest. That section describes a program of sequential courses that allows students to achieve vocational competencies as it fosters learning of abstract or theoretical concepts under applied conditions. It replaces job-specific instruction of traditional vocational education with contextualized knowledge that provides students with a range of problem-solving and employability skills. The next section describes eight models of school organization from incorporating more academic content into vocational courses to career academies, to replacing departments with occupational clusters. A discussion of the benefits of integrating academic and vocational education examines student motivation, workplace links, equity, educationally rich learning, changes in school organization, and a qualified work force. A final section reviews implementation and covers student orientation, curriculum and assessment, teacher roles, and school organization. (JB)

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ERIC Digest

INTEGRATING ACADEMIC AND VOCATIONAL EDUCATION:

AN EQUITABLE WAY TO PREPARE MIDDLE LEVEL STUDENTS FOR THE FUTURE

Number 83, November 1992

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Introduction

The need to prepare young people to fill the jobs needed by the changing American economy is a problem of increasing concern. A large number of students, who may not have the resources to go to a university but who certainly have the ability to work well at decent-paying jobs, are tracked into a general high school program. They are not provided with either the academic skills needed for attendance at a junior or technical college, or the vocational skills for an upwardly bound employment path. Moreover, such tracking perpetuates the pervasive American problem of unequal educational and economic opportunity, because a large proportion of these students are not white and middle class.

Ways to correct this inequity are now being explored, the result, in part, of passage of the 1990 Carl D. Perkins Vocational and Applied Technology Act, which funds (especially in urban areas) the development of programs to better prepare public school students for work. The result is an effort to "build up the middle"—of the U.S. work force and of the high school student body—by creating a variety of education models that demonstrate how academic learning can be applied practically to develop workplace competence and flexibility. One option, integrating academic and vocational education, looks particularly promising. It is described below.

Curriculum and Teaching Strategy

The integration of academic and vocational education is a curricular and instructional strategy that makes learning more available and meaningful to all students. A program of sequential courses, it allows students to achieve vocational competencies as it fosters learning of abstract or theoretical concepts under applied conditions. Moreover, it replaces the job-specific instruction of traditional vocational education, which limits students' employment opportunities, with contextualized knowledge that provides students with a range of problem-solving and employability skills.

Integration also fosters teacher collaboration in curriculum planning and coordination of instruction. Finally, it involves the business community in the program (Bodilly, Stasz, & Ramsey, 1992).

School Organization

School organization for providing an integrated education can vary. Grubb, Davis, Lum, Plihal, and Morgain (1991) and Grubb and Stasz (1991) have identified viable models:

Incorporating more academic content into vocational courses. Vocational education teachers use newly-developed curricula to infuse traditional instruction with instruction to increase core academic competencies. Largely a remedial program, it does not require new institutional arrangements.

Combining academic and vocational teachers to incorporate academic competencies in vocational courses. Also remedial, here, academic and vocational education teachers collaborate in developing curricula to infuse vocational education courses with academic content.

Making the academic curriculum more vocationally relevant. Most commonly accomplished through "applied academic" courses, this approach uses prepackaged curricula to provide academic instruction in concrete subjects that demonstrate their practical relevance. The curricula of vocational education courses remains unchanged.

Modifying both academic and vocational curricula and curricular alignment. "Aligning curriculum horizontally," vocationally-oriented material is simultaneously introduced into academic courses and academically-relevant material is presented in vocational courses through the collaboration of academic and vocational education teachers. This model can affect all students in the school. "Vertical alignment" integrates academic and vocational material through a coherent sequence of courses at the program, rather than the course, level.

The Career Academy model. "Academies" operate as schools-within-schools. They align clusters of courses around a specific career, with a group of teachers collaborating on developing an integrated academic and vocational program for a student body with whom they work over a period of years. This model allows students to work with employers in industries related to the school's occupational focus.

Single-occupation vocational schools. These are self-contained independent structures, functioning as career magnets that tend to break down the academic isolation of socially and racially segregated neighborhood schools.

Replacing departments with occupational clusters. Here, in a structure resembling schoolwide academies, traditional academic and vocational departments are replaced by "clusters" organized by occupations. This model aligns a coherent sequence of courses and allows greater collaboration on curriculum and instruction among teachers because they belong to a cluster as well as a department.

Combining departments and occupational clusters. This program integration strategy creates occupational clusters that cut across departments to result in a program offering solid academic course work and sophisticated vocational courses. It provides information about, and access to, local industry.

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Benefits of Integrating Academic and Vocational Education

Student Motivation. Integration is an ideal way to help schools retain students not interested in the benefits of an academic education *per se*, but aware of the advantages of entering the job market with skills.

Workplace Linkages. Program components that allow students to work provide them with a needed income, hands-on experience in their chosen field, and contact with employers who may offer them career path jobs after graduation.

Equity. Integration can help offset stratification and discrimination in schools and the work force. It offers students identified as lacking basic academic and higher order thinking skills a meaningful education instead of relegation to a low track program that could compromise their future opportunities (Stasz, 1992). Since the majority of those low tracked are students of color, limited English speaking, and poor, providing integration as an alternative to tracking not only eliminates a stigma that could further impede their ability to learn, but provides them with skill training to help them compete successfully for jobs with more advantaged applicants.

Educationally Rich Learning. Integrating vocational and academic education provides students with educationally rich and problem-centered learning (Berryman & Bailey, 1992). Following the principles of the "cognitive apprenticeship" model, integration is an effective curricular and teaching strategy that allows students to develop the cognitive skills needed to apply academic learning to practical situations (Collins, Brown, & Newman, 1989).

Changes in School Organization. Integration works well in a variety of school settings, although it works best when academic and vocational education teachers collaborate and use a specially developed curriculum to maximize both areas of learning. Integration programs provide models that can be replicated for other courses of study, and they can offer large comprehensive high schools an attractive model for restructuring into smaller units.

Qualified Work Force. Absent the apprentice and training programs of the past, employers seeking to fill middle skill level jobs with ever-changing duties, look to U.S. schools to produce a qualified work force. They need graduates who not only can accomplish discrete tasks, as traditionally educated vocational education majors could, but who have problem-solving skills that allow them to be flexible when carrying out aspects of their jobs. Students who complete integrated education programs are most likely to meet current and future employer needs.

Implementing Integration

While the benefits noted above suggest that schools should move toward integrating academic and vocational education, there are important constraints that may have to be overcome first. The following changes must be made.

Student Orientation. Students will need to assume more responsibility for their own learning; learn in less structured situations; work in teams with resources more common to non-school settings; and apply their knowledge.

Curriculum and Assessment. Some integration models require new curricula and even a new way of combining areas of study. Multiple choice tests do not match a learning paradigm that stresses the ability to apply knowledge, and standardized assessments for new competencies have not yet been developed. Similarly, post-secondary schools may not have a system for assigning credit for applied course work.

Teacher Roles. Some models require teachers to develop new areas of expertise, to learn new teaching methods, and to work more collaboratively with each other.

School Organization. Schools will have to accept the equality of academic and vocational education. They may have to alter certain traditions, such as departmental divisions, the 50-minute instructional period, and the length of the school day. Some such changes may be impeded by state regulations, union contracts, and fiscal constraints.

The potential benefits of an integrated academic and vocational education program—particularly to minority and poor students—are great. So, while the obstacles to implementing the program may seem formidable, the efforts made by policy makers and administrators to surmount them may very well be profitably spent.

— Sue E. Berryman, Erwin Flaxman, and Morton Inger

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This digest is based on a paper prepared for the National Center of Research in Vocational Education, *Building the Middle.* To order the paper, please contact NCRVE, University of California, 1995 University Avenue, Suite 375, Berkeley, CA 97404.

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